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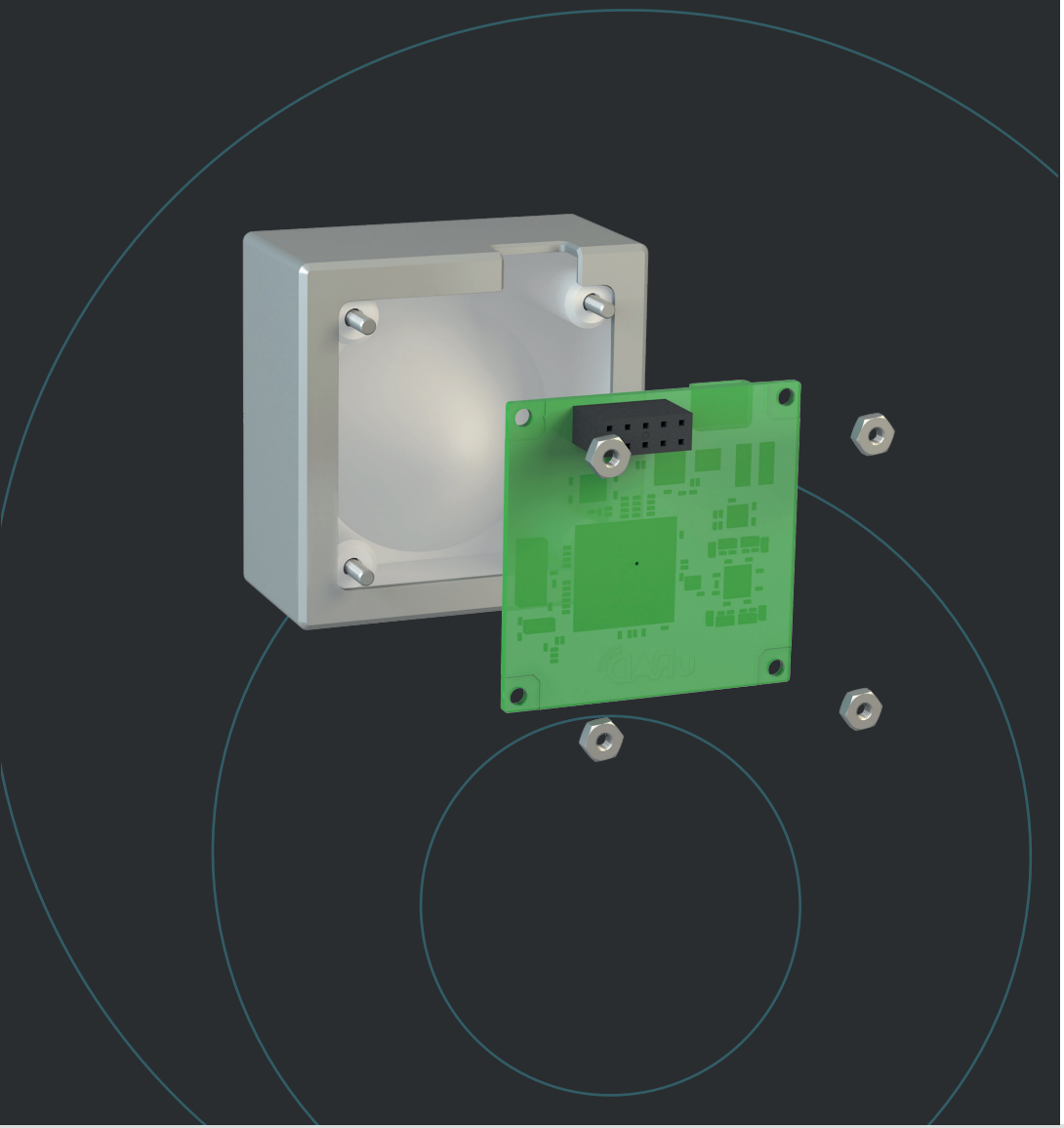

uRAD Level Sensing

High-performance solution for frontal distance sensing

DESCRIPTION

uRAD level sensing solution is a **millimeter wave radar sensor** specifically designed to **measure frontal distance** with outstanding accuracy. Based on IWR6843AoP and AWR1843AoP chips of Texas Instruments, this sensor is characterized by its accuracy and robustness.

The radar sensor is covered by a **PLA case** with a hyperbolic design in the inside to **focus the beam** in the frontal direction. The case is surrounded by an aluminium metallic tape to avoid any undesired radiation at wide angles.

There are two options (60 and 77 GHz) to choose according to the RF regulations.

APPLICATIONS

This sensor is easy to integrate thanks to its communication interface, open libraries and simplicity to use. Therefore, you will be able to develop level sensing applications for many industry sectors:

- OIL MANUFACTURING PLANTS
- WATER TREATMENT
- PAPER AND PULP PRODUCTION DIVISIONS
- PETROCHEMICAL AND CHEMICAL MAKING & REFINERY
- WASTE MATERIAL HANDLING INDUSTRY
- BEVERAGE AND FOOD MANUFACTURING FACTORIES
- PHARMACEUTICAL PROCESSES
- POWER GENERATION PLANTS

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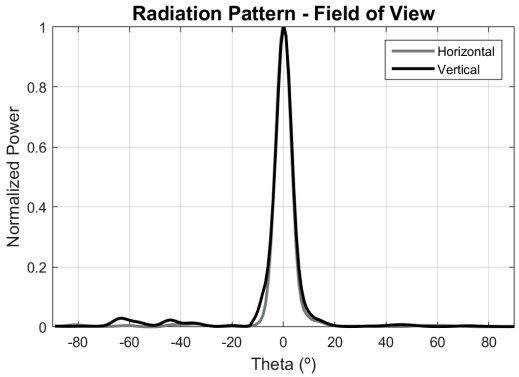
OPERATING CONDITIONS

Parameter	Typical value
Supply voltage	4.5 - 5.5 V
Supply current	140 mA
Digital signals	3.3 VW
Operating temperature	-20 to +85 ºC

PERFORMANCE

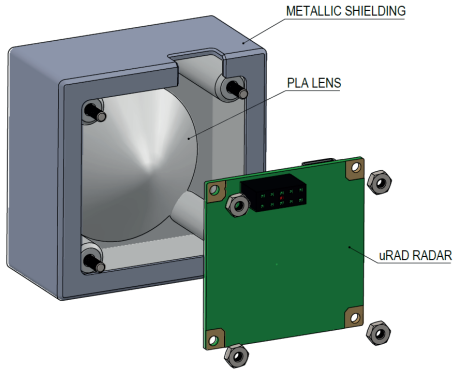
Parameter	Typical value	Notes
Frequency range:		
Option 1	60 - 64 GHz	IWR uRAD model
Option 2	77 - 81 GHz	AWR uRAD model
Range	0 to 150 m	
Accuracy	1 mm	
Field of view	6 x 6 deg	

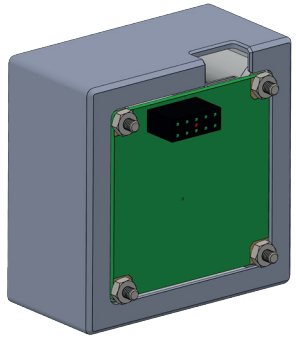


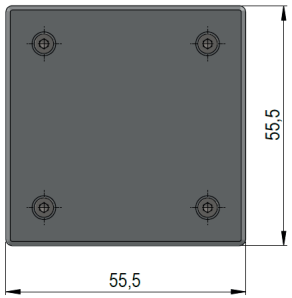
DIMENSIONS

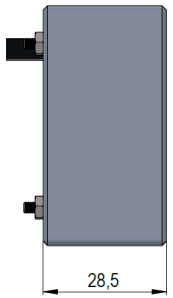
Parameter	Typical value
Dimensions	55.5 x 55.5 x 28.5 mm
Weight	41.4 gr

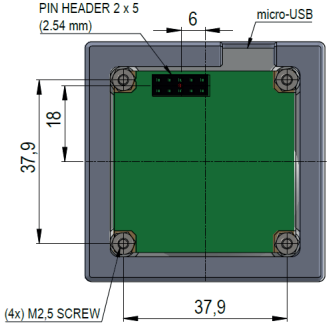
OUTLINE











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SOFTWARE AND FIRMWARE

The radar board is flashed with a specific firmware that takes advantages of all capacity of the millimeter wave radar sensor.

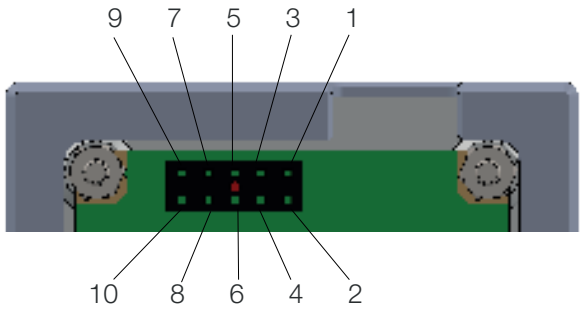
With the purchase, a full user manual and open libraries in Python and C++ are delivered.

The software also includes a Graph Visualizer for helping in the calibration and set-up.

COMMUNICATION

The board has two different connections:

- Micro USB connector: power, upload firmware, send configuration, receive data.
- Female 14-Pin header connector: power, send configuration, receive data, reset, GPIOS and SPI.



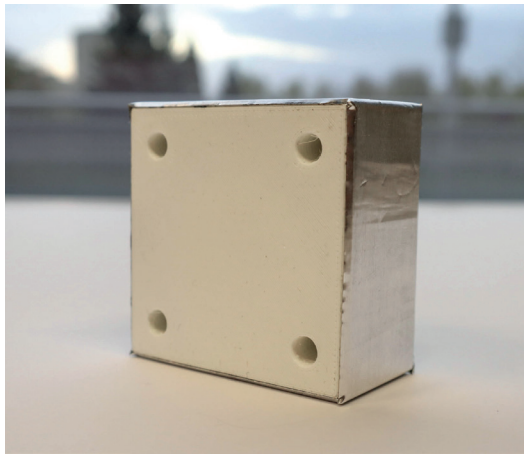
1: GND
2: 5V
3: UART TX config
4: UART RX config
5: UART TX data
6: UART RX data
7: Reset
8: ON/OFF
9: GPIO1
10: GPIO0

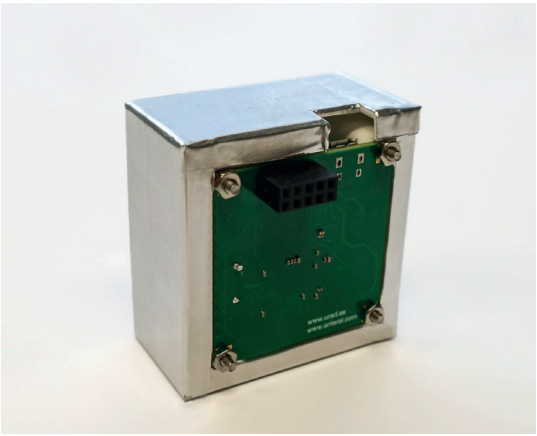
Last version: 15/12/2022

OTHER

uRAD team, as experts in radar technology, will guide you in the development of your application.

Contact us at **contact@urad.es** if you want to know more.





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